

WHAT IS CLAIMED IS:

1. A facsimile manager for operating printing and scanning functionality of a facsimile machine equipped with a bi-directional parallel interface, comprising:

an interface with a communication module which polls the facsimile machine via the bi-directional parallel interface to determine whether a scanned-in image or a received-fax image is present in facsimile memory, which obtains the scanned-in image or the received fax image via the bi-directional interface, and which accepts images and send-fax images from other Windows applications programs;

an in-box for storing image provided by the communication module, such images including the received-fax image and images from other Windows application programs;

an out-box for storing send-fax images that are provided by the communication module;

a scanning module which causes the communication module to initiate a scanning operation, which receives scanned-in image from the communication module, and which stores the scanned-in image in said in-box;

a fax module which gives send-fax data from said out-box to the communication module and which causes the communication module to transmit the send-fax images via the bi-directional interface to the facsimile machine for subsequent facsimile transmission by the facsimile machine; and

a print module which gives images from said in-box or said out-box to the communication module and which causes the communication module to transmit the image via the bi-directional interface

to the facsimile machine for subsequent print out by the facsimile machine.

5           2. A facsimile manager according to Claim 1, further comprising a viewer module into which images can be deposited for viewing.

10          3. A facsimile manager according to Claim 1, wherein said in-box and said out-box both include thumbnail viewers for viewing a thumbnail rendering of selected images stored therein.

15          4. A facsimile manager according to Claim 3, wherein, in response to selection of the thumbnail rendering, the selected image is deposited into a viewer module for viewing.

20          5. A facsimile manager according to Claim 1, wherein said scanning module includes an image buffer for storing and displaying scanned-in image received from the communication module.

25          6. A facsimile manager according to Claim 5, wherein said scanner display includes image composition commands including commands to rotate, to zoom and to select other pages.

30          7. A facsimile manager according to Claim 1, further comprising an envelope module which assembles files from said in-box and said out-box to create a sealed envelope file which is deposited in said in box.

35          8. A configurable print driver which accepts document data from a Windows-based application program and which delivers corresponding image data to a communication module adapted to

communicate with a facsimile machine via a bi-directional parallel interface comprising:

5           a configuration selector for selecting one of a printing, faxing or storing configuration for said print driver;

10          a file format converter which converts the document from the Windows application into an image-based file format; and

15          a delivery mechanism for delivering the converted document to the communication module together with the selected configuration.

9. A configurable print driver according to Claim 8, wherein the communication module transmits the converted to the facsimile machine via the bi-directional parallel interface when a print or a fax configuration is selected, and wherein the communication module transmits the converted document to an in-box when a store configuration is selected.

10. A configurable print driver according to Claim 8, wherein, when a fax configuration is selected, said print driver adds a facsimile cover sheet and provides opportunities for scheduling facsimile transmission, whereas when a printing configuration is selected, said print driver immediately transmits the converted document to the communication module for print out by the facsimile machine.

11. A configurable print driver according to Claim 8, wherein said communication module checks to determine whether the converted document is completely delivered into fax memory.

12. A TWAIN scan driver responsive to acquire commands issued by a TWAIN-compatible Windows application program, the scan driver for delivering image data from a fax machine equipped with a bi-directional parallel interface to the Windows application program, comprising:

5 a TWAIN negotiator for negotiating a suitable image format with the Windows application program;

10 a scan initiator for issuing a command for initiating scan by the facsimile machine;

15 an interface with a communication modules which in response to said scan initiator sends a command via the bi-directional parallel interface to the fax machine for initiating scanning, which polls fax memory to determine whether a scanned-in document file is present in fax memory, and which in response to the presence of a scanned-in document in fax memory retrieves the scanned-in document via the bi-directional parallel interface;

20 an image buffer for temporarily storing and for displaying the scanned-in document retrieved by the communication module; and

25 an accept interface response to an image-accept command, for providing the scanned-in image to the Windows application program in the TWAIN-negotiated image format.

13. A communication module resident in a host computer for communicating with a processor in a facsimile machine equipped with a bi-directional interface, comprising:

30 a polling mechanism, responsive to timer messages issued from a Windows operating system, for polling the facsimile machine via the bi-directional interface to determine whether an image file is present in facsimile memory;

an image buffer into which the communication module stores image files retrieved from facsimile memory via the bi-directional interface;

5 a file identifier for determining whether the retrieved image file is a scanned-in image file or a received-fax image file; and

10 a delivery mechanism for delivering the retrieved image file to an in-box of a facsimile manager in a case where the file identifier determines that the retrieved image file is a received-fax image file, and for delivering the retrieved image file to an active scan driver in a case where the file identifier determines that the 15 retrieved image file is a scanned-in image file.

14. A communication module according to Claim 13, further comprising a download module for downloading a facsimile image file to the facsimile machine via the bi-directional interface for subsequent facsimile transmission by the facsimile machine, and for downloading a print image file to the facsimile machine via the bi-directional interface for subsequent print out by the facsimile 25 machine.

15. A communication module according to Claim 14, wherein in the case of downloading a facsimile image file, the download module also downloads facsimile address and protocol information.

16. A communication module according to Claim 14, wherein in the case of downloading a print image file, the download module also downloads printer configuration information including resolution information.

17. An out-box display comprising:

a list area divided into a top portion and a bottom portion, wherein the top portion includes a list of queued out-box items and wherein the bottom portion includes a list of completed out-box items; and

an active list separate from and positioned on top of said list area, said active list including exactly one item which is currently an active out-box item, said active list also including a stop button;

wherein in response to selection of the stop button, transmission of the active item in said active list is terminated.

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18. An out-box display according to claim 17, wherein said list area is divided into columns which show separate elements of information for each item in said list area, and wherein said list area includes column headers arranged as buttons; and

wherein in response to activation of one of said column header buttons, items in said list area are sorted by that column.

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19. An out-box display according to claim 17, further comprising a thumbnail viewer for viewing a thumbnail rendering of selected items in said list area.

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20. An out-box display according to Claim 17, wherein, in response to selection of the thumbnail rendering, the selected item is deposited into a viewer module for viewing.